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ABSTRACT

This report provides information about "IRIS," a one year interlibrary loan project between the University of Tennessee, Knoxville (UTK), and Vanderbilt University. IRIS, which was sponsored in part by a grant under Title II-D of the Higher Education Act, makes the Vanderbilt library's online catalog available for searching at the UTK Libraries, and new telefacsimile equipment provided by IRIS allows Vanderbilt and UTK Libraries to fax journal articles to each other. The first of three parts of the report presents general information about IRIS team members at the two universities and describes what the interlibrary loan situation was like before the grant. The narrative report in the second part presents a discussion of the methodology for implementing IRIS and evaluating the impact of the system on the two campuses. The third part presents a financial status report. A brochure describing IRIS, a copy of the questionnaire for IRIS users, and the composite raw data for the survey are appended. (MAB)

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IRIS

University of Tennessee, Knoxville ** Vanderbilt University
Joint-Use Program

October 1988 – December 1990

ED342420

Part I – General

■ Institutions Receiving Grant:

The University of Tennessee, Knoxville
University Libraries
149 John C. Hodges Library
Knoxville, TN 37996-1000

Vanderbilt University
The Jean & Alexander Heard Library
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Nashville, TN 37240

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Grant number R197A80135-88
Project: College Library Technology & Cooperation Grants Program—Joint-Use Grant;
The University of Tennessee, Knoxville**Vanderbilt University Joint-Use Program, IRIS
Budget Period: 10/01/88 – 12/31/90

Grant Amount Awarded:	$ 108,417.00
Federal Dollars Expended:	$ 107,504.26
Matching Dollars Expended:	$ 61,790.13
Total Amount Expended:	$ 169,294.39

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Part II - Narrative Report

Introduction

The University of Tennessee (UT) and Vanderbilt University (VU) libraries received a U.S. Department of Education HEA Title II-D College Library Technology and Cooperation Grants award of $108,417, beginning October 1988, to expand the existing joint use program between the two libraries. A cooperative interlibrary lending agreement that provided for exchange of photocopies and delivery of books without charge to the borrowing institution had been in effect between the two libraries (except the VU Medical Center Library) since 1981. By participating in several Title IIC Southeastern ARL Serials Projects that were completed in 1987, UT and VU had converted their serial titles and holdings into machine readable format. Both libraries were contributors to the Tennessee Union List of Serials. Both participate in the OCLC Reciprocal Faculty Borrowing Program, and in the Tennessee Library Association's Tennessee Resource Sharing project.

The UT and VU interlibrary loan (ILL) units frequently borrow materials from one another. Although ILL services have traditionally been the primary alternative for access to resources not held by a library, the conventional system has several limitations. First, users and ILL staff do not have a convenient

way to tell whether needed titles are on the shelf. For serials, the OCLC network used by ILL cites titles held by other institutions, but frequently does not include specific holdings. In some cases serial titles are simply not included on OCLC. Microfiche copies of the serials holdings lists exchanged by the two libraries have been used exclusively in ILL, and have not been available to the public. Most frustrating, the typical turnaround time of two or three weeks is often unacceptable for researchers and undergraduate students working on short deadlines. The standard ten- to twenty-day delay may be due to inadequate staff for processing requests, antiquated procedures, unavailability of materials at the first institution tried, and mail delays. Finally, traditional ILL services do not include the means for speedy document delivery once requested items have been received at the home library.

The UT and VU libraries were awarded the U. S. Department of Education HEA Title IID grant to strengthen and expand their cooperative ties through the design of a prototype focused on the subject areas of science, technology, agriculture, and medicine. Grant teams from the two libraries included coordinators for automation, interlibrary loan, reference, public relations and evaluation. The team chose IRIS, Greek goddess of the rainbow, and messenger to the gods, as the name for a resource sharing demonstration project that could promote networking among all types of libraries in the state and region. Because the present-day IRIS depended on telefacsimile equipment to speed document delivery, the

messenger image seemed particularly apt. Further, the symbolism of the network rainbow connecting two Tennessee research libraries represented the cooperative spirit that permeated the conception and implementation of IRIS. IRIS was conceived as a strategy for strengthening access to library materials in the sciences and technology. Goals of the project were to integrate bibliographic access, document delivery and cooperative collection development in a resource sharing prototype. Specific objectives included:

1. Provide users with bibliographic access to cataloged materials in the cooperating library.
2. Deliver materials within a day or two of request.
3. Begin a cooperative collection development plan for serials in the Library of Congress call letter areas Q, R, S, and T.

Methodology

Grant teams from the libraries held two meetings in October 1988 to refine plans for the project, and to visit the facilities that would be involved. A fortunate discovery was the existence of a high-speed telecommunications line linking the UT and VU computer centers. Each library was able to connect personal computer workstation equipment to the line to provide access to the other's catalog. The connections were not without technical difficulties; the Vanderbilt connection to University of Tennessee frequently failed during the first several months of the project. However, the problem was eventually solved, and connections in both

directions have been stable since April 1990.

Reference coordinators oriented their colleagues to the use of the UT and VU online catalogs. User aids were prepared, both for library patrons and librarians. A stack of interlibrary loan request forms was kept beside each online catalog workstation.

Telefacsimile equipment was installed in UT's Hodges Library and Agriculture-Veterinary Medicine Library, in VU's Science and Annex libraries, and a fax upgrade added to the VU Medical Center Library. The first transmission was sent on November 29, 1988.

Two key staff positions for IRIS were library specialists (Mary Griffin at UT and Wendy Wise at VU) hired to design interlibrary loan plans; hire, train and supervise student library assistants; resolve bibliographic and location problems; and to collect statistics. Besides expediting IRIS requests, the library specialists were responsible for exploring novel approaches to ILL service in general.

Interlibrary loan policies and procedures were among the most experimental features of the project. The interlibrary loan coordinators devised initial policies that would provide maximum access for users of the cooperating libraries. As the volume of business increased, ILL staffs modified policies to adapt to particular conditions. Emphasis was placed on speed of delivery at both libraries. For the first time, branch personnel at UT Agriculture-Veterinary Medicine Library and VU Science and Annex libraries offered ILL directly from the branch.

Once users identified materials needed at the cooperating

library, requests were presented at the ILL service point. In the traditional method, the user initiated a request to be entered into an OCLC/ILL subsystem queue. The lending library filled the request or passed it along to the next library in the queue. Materials to be lent were retrieved from the stacks, photocopied or wrapped, then mailed at library rate, fourth class postage. Through IRIS, upon determination that the cooperating library held a needed item, the borrowing library called on the lender as the supplier of first resort. The borrowing library could elect to forego traditional verification of journal articles, and the lender made a reasonable effort to find material with incorrect citations. Copyright guidelines were followed through use of the Copyright Clearance Center. Requests were transmitted by fax whenever possible. When a document exceeded twenty pages, or if fax delivery was not practical (e.g. because of graphic content), materials were shipped by first class mail or by commercial carrier, whichever was more expedient.

The evaluation plan contained both subjective and objective measures. Cover sheets attached to all materials provided by IRIS included a brief questionnaire that provided anecdotal information. ILL units kept statistics in several categories, such as turnaround time, requests filled, LC call numbers filled, journal titles filled, requestor department and status. In Fall 1989 and Spring 1990 librarians sent surveys to IRIS clientele to gather objective data about their satisfaction with the service.

Publicity for the project focused on science and technology

users at the two campuses. Librarians worked with a graphic artist who designed a colorful logo portraying online catalog terminals connected by a rainbow. Posters and fliers resplendent with the IRIS rainbow were distributed to science, technology, medicine and agriculture faculty and graduate students. (See Appendix A for a sample of the brochure.) The cover sheet that accompanied all materials included a description of IRIS, along with the questionnaire about the service. (See Appendix B.) Articles appeared in both Vanderbilt and UT publications for faculty and staff. Notifications of the grant award appeared in the local and national press. During the Spring 1988 semester VU held an open IRIS meeting for library staff at which IRIS coordinators described ILL policies and procedures, reported on cooperative collection development activities, and demonstrated the UT online catalog. UT maintained a scrapbook of brochures, posters, news articles, and press releases.

In the area of cooperative collection development (CCD) librarians from the VU Science and Medical Center libraries, and from the UT Hodges and Agriculture-Veterinary Medicine libraries selected microbiology journal titles as a test area for development of a model CCD process. To identify collection strengths and journal titles eligible for resource-sharing, librarians (1) compiled conspectuses to ascertain strengths of the various subdisciplines within microbiology at each location; and (2) created a list of journal titles that was divided into core, resource-sharing, and new titles for purchase.

Results

IRIS met and exceeded all goals of the project. In her first six months of active service, IRIS hastened the delivery of over 1,800 photocopy and book loans between UT and VU, a 100% increase over the 924 items exchanged between the two libraries in the previous year. Requests faxed between the libraries averaged less than 24-hour turnaround time and the traditional filled rate of 50-60% jumped to 82-87%. At UT, IRIS materials were delivered to faculty and graduate student departmental offices, while at VU delivery service was available upon request.

By the end of December 1989, UT had requested 3,246 items from VU, and received 2,782; VU had requested 1,565 from UT, receiving 1,307, for a total of 4,089 items exchanged. Of these, 2,335 photocopies were transmitted via fax. The filled rate stayed at 85% throughout the year, and the turnaround time continued at the norm of twenty-four hours for faxed items. Over 75% of the book loans were filled within four days, where previous book loan turnaround required two to three weeks.

Figure 1 reflects the volume of business at both institutions on a monthly basis. Figure 2 shows volume of borrowing by Library of Congress class letter. Clearly, medical titles were in high demand by UT users, while Vanderbilt use concentrated on the science, technology, and business collections. Activity among the central ILL units and the branch libraries revealed that the VU Medical Center Library supplied 877 faxed articles to UT ILL in the Hodges Library, and 369 articles to the UT Agriculture Veterinary

Figure 1

IRIS – TOTAL TRANSACTIONS 1988–89

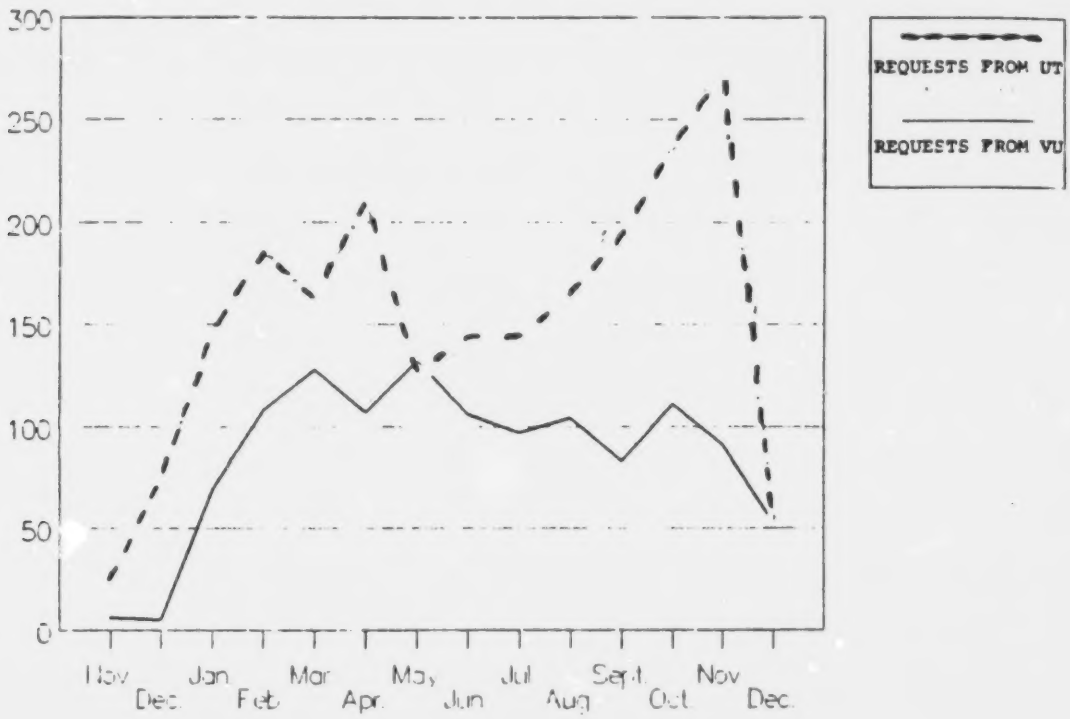
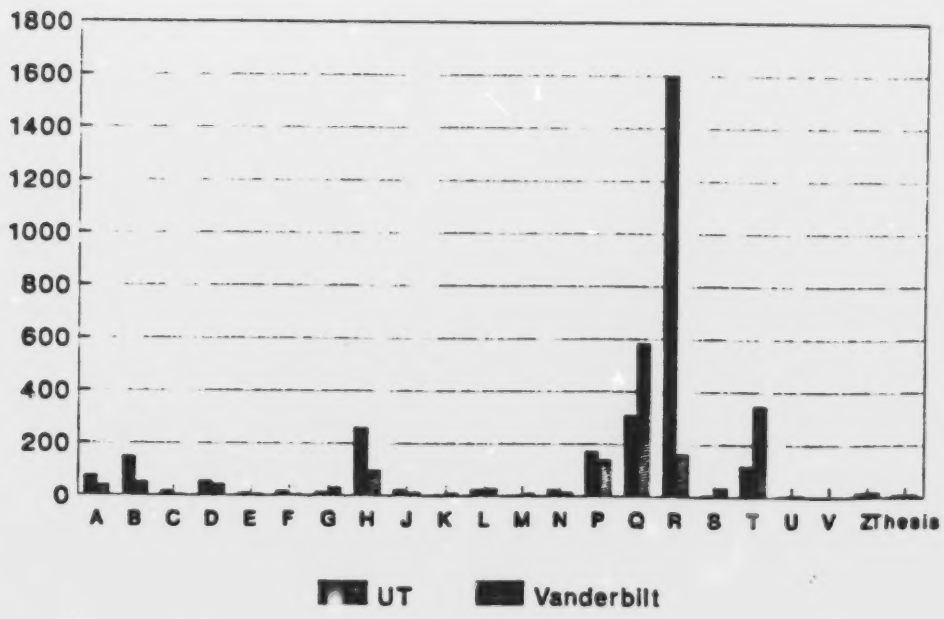


Figure 2

Borrowing by LC Class



Medicine Library: nearly 30% of the articles were supplied directly to the users at the agriculture library. The UT agriculture library supplied only 95 items, primarily articles, during the year, due to the specialized nature of the collection. UT Hodges Library lent approximately equal numbers of books to the VU Science and Central libraries, but faxed 537 articles to VU Science compared with the faxing of 143 articles to Medical and 43 articles to Central.

The cover sheet accompanying materials provided through IRIS included a brief questionnaire soliciting level of satisfaction with the service. Comments ranged from superlative to grateful. Quotes from some of the returned forms: "Wonderful! Absolutely wonderful!! These articles were urgently needed and the speed with which they were received was appreciated. Can you keep the IRIS project 4 more years until I complete my Ph.D.?" and "It is generous. It is quick, too, considering the number of people and agencies involved." Most negative comments concerned the quality of the fax copy: "Micrographs were terrible. Some formulas were blurred and complicated" and "it seems that current state-of-art FAX copy is not yet suitable for small text copy." As noted by these users, fax was particularly inadequate for photographs and other visuals.

While the returned cover sheets supplied useful anecdotal information, a more comprehensive survey of user opinion was sent to all VU IRIS users during Fall Semester, 1989 and to a sample of UT IRIS users during Spring Semester, 1990. The survey instrument

contained eight questions about use of IRIS and two demographic questions that included borrower status and department or major. Composite data from the two surveys is based on 296 returns of 624 instruments distributed, a response rate of 47%. Appendix C includes a list of all questions on the survey and the number responding from each library. A wide majority of IRIS users, 88% of the respondents, were graduate students and faculty. Most (79%) had used interlibrary loan before the IRIS service began. Well above half (67%) of the users were in science, medicine or agriculture disciplines, while 32% were in the humanities and social sciences; one percent were administrators.

Of the respondents, 66% realized that they had received materials through IRIS. Nearly all users characterized the service as "excellent" (53%) or "good" (42%), while only one percent gave IRIS a "poor" rating. At VU the most popular means for discovering the service was from someone who works in the library (79%); at UT the responses were mixed among a variety of sources, including identification on the document received through ILL (21), brochure, poster or other promotional material (17), from someone in the user's department (12), as well as from someone who works in the library (17).

Of the 181 responses to a question regarding success in using the online catalogs at the two libraries, 34% reported very successful encounters, but 49% said they did not use the catalogs at all. On the following question that inquired about the availability of help for the online catalog, 16% reported that

there was someone present to provide assistance, while 33% responded that there was not; 38% reported "did not use," while 13% did not know about the availability of help.

Users were asked to evaluate the graphic quality of fax materials they received. Of the 62% who did receive fax copies, 125 rated the quality as good or acceptable, while thirty four considered the quality poor. Finally, the survey inquired of previous interlibrary loan users about the speed of IRIS compared with the service in the past. Librarians were gratified to see that 54% evaluated IRIS as being faster than the traditional service. Some 14% of the users found the turnaround time to be about the same as in the past, while 31% reported that they did not know. Only one percent said IRIS was slower.

To facilitate cooperative collection development planning, serials vendors used by the two libraries furnished journal lists for comparison of titles currently received. Librarians from the VU Science and Medical Center libraries, and from UT's Hodges and Agriculture-Veterinary Medicine libraries selected microbiology as a test subject area for identification of collection strengths and selection of specific titles eligible for resource sharing. First, to determine a profile of the microbiology collection, librarians compiled a conspectus, indicating current and desired collection levels, faculty teaching and research interests, and courses supported by the collection. Second, they developed a list of journal titles that were divided into categories of core, potential for resource sharing and new titles for purchase.

The core category refers to journals that must be held in the local library, regardless of availability elsewhere, because of frequent use. Less frequently used titles are considered eligible for resource sharing, provided that they can be accessed quickly and without charge from a cooperating library. Each of the cooperating libraries agrees to become the "library of record" for certain titles, promising to maintain and provide access to complete holdings. Cost savings from this arrangement permit the local library to purchase new, high priority journal titles. A survey of the UT Microbiology Department conducted in Fall 1989 involved the primary collection users in determining resource-sharing eligibility for each journal title.

Discussion

The federal and local matching expenditures for the IRIS project supported staff, travel, equipment, supplies, telecommunications, and promotional materials. Two budget revisions were approved during the program, the first in November 1989 to purchase a second fax machine, and the second in July 1990 to redirect funds within the budget for acquisition of a personal computer to be used as a fax attachment unit. No new funds were requested. Because the libraries were able to make the online catalog connections through their computing center lines, funds originally dedicated to modems and telecommunications lines were not used. High use of the fax machine, which sometimes resulted in transmission delays, convinced ILL staff that demand would continue to increase, and that reallocating funds to a second fax would

result in substantially improved service.

Intensive fax use had a concommitant effect on long distance expenses, motivating librarians to investigate possiblities for attaching fax machines to Internet communications lines. Unused fringe benefits funds were added to remaining telecommunications and equipment funds to purchase a personal computer fax attachment unit for UT. Both libraries also received permission to spend unused funds in the telecommunications category on long distance charges, which had substantially exceeded projections. A combined UT and VU budget and expenditures report is attached to the Financial Status Report (SF 269A).

Although UT and VU use different online catalog vendors (UT uses Geac; VU uses NOTIS) the basic search commands appeared to present little difficulty for users. VU serials holdings information shown in the online catalog, and the UT printed Serials Holdings List enabled users to request journal volumes and monographs, with relative confidence of availability. User aids included a manual with sample searches and basic workstation protocols. A stack of interlibrary loan forms kept beside each workstation encouraged users to request materials. The availability of the personal computer workstation at UT stimulated experimentation with connections to other online catalogs. In addition to VU's ACORN, the workstation menu now offers a choice of catalogs from the Oak Ridge National Laboratory, the University of Tennessee at Chattanooga, and an array of online catalogs available through the Internet.

IRIS brought about revisions to the traditional interlibrary loan process, as fax was used for both submitting requests and transmitting photocopies. Mailing practices were also changed: staff used jiffy bags for packaging, and UPS or first class mail for shipping. Policies and procedures for the use of fax with general ILL service evolved as ILL staff responded to daily requests and experimented with new possibilities. UT sent fax copies without charge for all rush requests received through OCLC. VU Medical Center used the fax extensively for participation in a medical school library consortium, particularly in the area of patient care. IRIS explorations during the first year led to the development of written ILL fax policies and fee schedules that support the rush service presently offered.

Installation of fax service has improved communications within the individual library systems as well. For example, VU Science librarians now use fax to retrieve materials located in the VU Annex. UT Agriculture-Veterinary Medicine and Hodges Library staff fax express requests to one another.

UT and VU selected different brands and models of telefacsimile equipment to meet local needs, creating the opportunity to compare fax performance. UT purchased the Xerox 7020 Telecopier, while VU acquired the Canon L920 with built-in copier. VU added memory boards to all three fax machines to permit non-supervised transmission during evenings and weekends when telephone rates are lower. When UT purchased the second fax machine, librarians selected the Canon L920 on the basis of VU's

enthusiasm for its performance. Although librarians are generally satisfied with both machines, one hidden cost area surfaced. Ink cartridges last only about three weeks and cost $80-$85 each. By using recycled, re-inked cartridges, the ILL units have reduced the replacement cost to $30 (VU) - $60 (UT).

All parties are interested in the potential for using the high speed line between the computing centers for fax service, particularly since the high volume of business and high in-state telephone rates quickly depleted the long-distance budget. A UT Computer Science professor volunteered to assist librarians experiment with fax transmission via the Internet. Required equipment included the Canon L920 fax machine (with its RS 232 port) and a personal computer workstation. Both libraries now have the equipment and expect to use software presently in test at The Ohio State University's Instruction and Research Computer Center.

Because fax copies were of variable quality, some users preferred waiting for photocopies to come through the mail. As of May 1989, VU staff reported that in approximately one out of three articles received from UT, a page needed to be retransmitted. Increased experience with the machines and reduced user expectations for copy quality eventually led to fewer re-sends. While fuzzy print seems to be the norm for Group III fax equipment, copy quality appeared to be affected by the transmitting machine, the clarity of the telephone line, and the quality of the receiving printer. Fax transmission is particularly unsuited to photographs and other detailed visuals. Both UT and VU use plain paper fax

machines which result in longer life for the printed copy.

Conclusions

IRIS introduced external online catalogs into the reference areas of the participating libraries, enabling users to peruse another research collection in Tennessee, initially, and eventually catalogs from across the country. Several faculty have inquired about catalog access from microcomputers in their offices or at home; individuals may dial into the online catalogs of the IRIS libraries using a modem and published search protocols. Interlibrary loan staff report nearly constant use of the fax machines during mid-morning through mid-afternoon. Users appreciate the speedy delivery of materials. Delivery within a day or two can be achieved through fax service, yet for materials sent by mail, a five to seven day turnaround has proven to be realistic. Comments such as these from the evaluation survey inspire library staff to continue their quest for improved access and delivery: "IRIS is stupendous! Has been invaluable to me! Hope you can keep it up." and "The IRIS program enabled me to obtain important research materials at a point when I was under great time pressure. Any reasonable steps which can be taken to ensure the continuation of this project should be taken. Thank you for providing this important support service for scholarly research."

The online catalog connections and cooperative collection development will continue without increases in funding. Fax service costs fluctuate with long distance rates--rates that decrease for out-of-state and evening transmission. While the

support staff hired through the grant were initially required to launch new ILL procedures and delivery mechanisms, additional staff needs will depend upon volume of use. Although IRIS users lauded the expedited ILL turnaround time, most ILL requestors in the post-grant period are not asking for rush service. If they did, ILL staff levels would have to be doubled, at least, to meet the demand. Procedures developed during IRIS continue to be used for rush service. To gain maximum experience with fax technology and new ILL procedures, UT and VU placed one another first in the OCLC lender string for all transactions during the grant period. Once policies and procedures became more routine, however, the libraries returned to more standard protocols for selecting lender strings.

The cooperative collection development model initiated through IRIS continues to evolve. Substantial progress has been made toward developing relationships between the sharing partners, preparing lists of journals for possible sharing, creating procedures that are transferable, improving local collection development efforts, and advancing CCD data management. Through cooperative collection development activities, librarians now have discussions about microbiology collection development, are familiar with one another's collections, and are more informed about local practices and organizational reporting structures in the cooperating libraries.

Various lists of microbiology journal titles have been exchanged. VU Science and Medical Center librarians compiled lists of titles duplicated between their libraries, and UT librarians

have prepared lists of marginal titles that are eligible for resource sharing between the two institutions. A VU serials review in progress may reveal additional journal titles that could be shared.

The CCD process developed for IRIS promises a high level of transferability, both with regard to discipline and to sharing partner. UT has checked the list of microbiology titles identified as candidates for resource sharing against the holdings at other libraries with reciprocal ILL agreements. Contacts will be made with library directors, as well as with librarians responsible for collection development and interlibrary loan to ascertain interest in establishing Library of Record agreements. Considerable optimism exists for the viability of this approach, because a similar arrangement is currently being implemented for other disciplines. Collaborating with Martin Marietta Energy Systems librarians at the Oak Ridge (Tennessee) National Laboratory, UT is currently conducting collection assessment of journals in chemistry and materials science. Martin Marietta recently became Library of Record for a title with a 154% price increase; UT will cancel the title, creating funds to make new journal purchases, a potential benefit to researchers at both institutions.

The microbiology model has focused attention on data collection and management, an enhancement that will support librarians' future work by providing a record of information collected and decisions made at a given point in time. An innovative feature of the information management component of the

program relies on adding local information to the 950 field of the local MARC record. By using the MARC record, staff need not rekey basic bibliographic information for use in database management programs, and information gathered by the librarian is kept in a central, standardized source for easy access by others over prolonged periods of time. The use of the MARC record, and the ability to download data from MARC format into a personal computer file suggest many possibilities for sharing data with CCD partners. The dynamic process of CCD need not be inhibited by a change in library selector or the weakness of memory. The availability of CCD information in the local online catalog brings unprecedented access to resource sharing data.

IRIS participants have shared their findings and experiences with the academic library community through a series of publications about IRIS and projects modeled upon the cooperative collection development model. In addition to the promotional features in the libraries' local publications, an article in the Tennessee Librarian ["IRIS: Tennessee's Rainbow," 42(1) Winter, 1990, pp. 11-16] described the goals, methodology and some preliminary results of the project. A chapter recently submitted for publication in volume two of Meckler's Advances in Library Resource Sharing details cooperative collection development accomplishments. At the 1990 ALA Annual Conference in Chicago, the IRIS Project Director gave a presentation to the ACRL Science and Technology Section Research Forum. A paper on the use of the IRIS model for CCD with a special library was given by UT's Science

Reference Coordinator at the April 1991 joint meeting of the Tennessee and Kentucky academic library associations.

IRIS' successful enhancement of cooperation between the two Tennessee ARL libraries has inspired similar and expanded initiative between The University of Tennessee and The University of Kentucky libraries. Librarians have held three joint meetings since August 1990 and are working on projects related to cooperative cataloging, collection development, fax via Internet, and shared reference services. Like the UT-VU relationship, UT and UK already have ILL reciprocity, the cornerstone for applications of technology to resource sharing. Kentucky librarians have expressed particular interest in establishing an "IRIS" workstation in their reference area to provide access to other online catalogs.

The joint-use programs between The University of Tennessee and Vanderbilt University fulfilled its promise to prepare a foundation of equipment and tested procedures for library cooperation. The practical results of IRIS strengthened ties between the two largest research libraries in Tennessee, creating a framework for expedited document delivery and cooperative collection development initiatives that now extends to other institutions in the region. Successful connections to external online catalogs, significant improvements in expedited interlibrary loan service, and a long-term commitment to coordinated collection development have flourished from an initial investment of staff, equipment and telecommunications support. IRIS' message conveys the viability of

cooperation for meeting the increasing demands upon libraries to provide more comprehensive resources and timely services.

Part III - Financial Status Report

Please see attached.

FINANCIAL STATUS REPORT

(Short Form)

(Follow instructions on the back)

"REVISED"

1 Federal Agency and Organizational Element to Which Report is Submitted	2 Federal Grant or Other Identifying Number Assigned By Federal Agency	OMB Approval No	Page	of
Department of Education	R197A80135-88	0348-0039		1 pages

3 Recipient Organization (Name and complete address, including ZIP code)

The University of Tennessee
Office of the Treasurer, 201 Andy Holt Tower
Knoxville, TN 37996-0100

4 Employer Identification Number	5 Recipient Account Number or Identifying Number	6 Final Report	7 Basis
62-6001636	B01994913-R0160188	☒ Yes ☐ No	☒ Cash ☐ Accrual

8 Funding/Grant Period (See instructions) From: (Month, Day, Year)	To: (Month, Day, Year)	9 Period Covered by this Report From: (Month, Day, Year)	To: (Month, Day, Year)
10/01/88	12/31/90	10/01/88	12/31/90

10 Transactions:	I Previously Reported	II This Period	III Cumulative
a. Total outlays	0.00	107,504.26	107,504.26
b. Recipient share of outlays	0.00	0.00	0.00
c. Federal share of outlays	0.00	107,504.26	107,504.26
d. Total unliquidated obligations			0.00
e. Recipient share of unliquidated obligations			0.00
f. Federal share of unliquidated obligations			0.00
g. Total Federal share (Sum of lines c and f)			107,504.26
h. Total Federal funds authorized for this funding period			108,417.00
i. Unobligated balance of Federal funds (Line h minus line g)			912.74

11. Indirect Expense	a. Type of Rate (Place "X" in appropriate box) ☐ Provisional ☒ Predetermined ☐ Final ☐ Fixed			
	b. Rate 31.1%	c. Base 48,797.00	d. Total Amount 15,175.87	e. Federal Share 15,175.87

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

13. Certification: **I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.**

Typed or Printed Name and Title	Telephone (Area code, number and extension)
Anne E. Patrick, Assistant Accountant	(615)974-2493
Signature of Authorized Certifying Official	**Date Report Submitted**
	May 3, 1991

Previous Editions not Usable

Standard Form 269A (REV 4-88)
Prescribed by OMB Circulars A-102 and A-110

Part III-- Financial Statistics Report Attachment
IRIS Budget Summary, October 1988 through December 1989 (University of Tennessee)

	DE Funds Budgeted	UTK Funds Budgeted	DE Funds Spent	UTK Funds Spent
Salary and Wages				
Key Personnel, 6		$14,605.00		$14,605.00
Senior Library Specialist (100%)	$14,862.00		$14,964.00	
Computer Operator (5%)		780.00		780.00
Administrative Secretary (4%)		531.00		531.00
Student Hours	3,864.00	1,796.00	3,861.72	1,796.00
Subtotal	$18,726.00	$17,712.00	$18,826.21	$17,712.00
Fringe Benefits				
Key Personnel, 6		$ 4,089.00		$ 4,089.00
Sr Library Specialist (100%) [rev 7/90]	$ 3,466.31		$ 3,466.31	
Computer Operator 95%)		218.00		218.00
Administrative Secretary (4%)		149.00		149.00
Subtotal	$ 3,466.31	$ 4,456.00	$ 3,466.31	$ 4,456.00
Travel	$ 0.00	$ 168.00	$ 0.00	$ 242.00
Equipment				
Microcomputers & Printers [rev 7/90]	$ 6,302.00		$ 6,043.00	
Modems [rev 11/89]				
Telefacsimile machines [rev 11/89]	9,825.00		10,084.00	
Photocopiers [rev 11/89]	5,286.00		5,286.00	
Subtotal	$21,413.00	$ 0.00	$21,413.00	$ 0.00
Supplies				
Wrapping materials		$ 197.00		$ 621.95
Paper/Toner for FAX & Copier		267.00		3,043.85
Postage		600.00		605.71
Subtotal	$ 0.00	$ 1,064.00	$ 0.00	$ 4,271.51
Contractual Services	$48,166.00		$ 45,530.39	
See Vanderbilt budget				
Other				
Telecommunications				
FAX rental				
Leased lines for catalog access [rev 11/89]		$ 606.00		$ 511.21
Telephone lines for FAX & Lib Spec.		2,400.00		1,804.16
Long distance charges [rev 11/89]	$ 1,192.69		$ 1,092.48	
Promotional Services				
Flyer design		200.00		
Flyer production		250.00		428.00
Subtotal	$ 1,192.69	$ 3,456.00	$ 1,092.48	$ 2,743.37
Indirect Costs (Direct cost less equipment plus $25,000 on subcontract) x 31.1%	$ 15,453.00	$ 8,352.00	$ 15,175.87	$ 8,352.00
TOTAL PROJECT COST	$108,417.00	$35,208.00	$107,504.26	$37,776.88

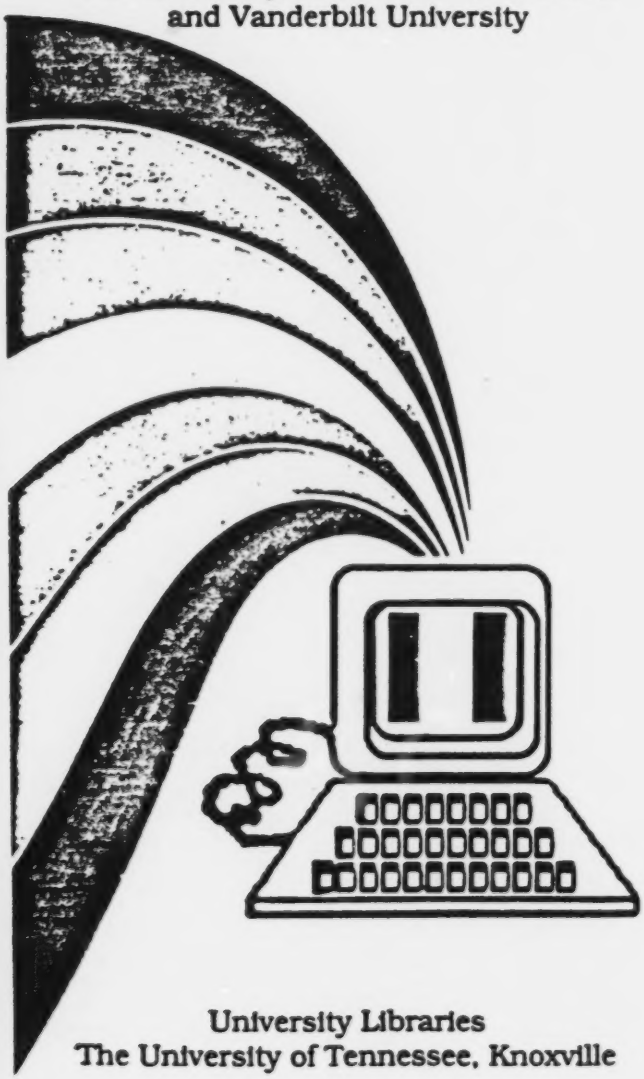
Part III-- Financial Statistics Report Attachment
IRIS Budget Summary, October 1988 through December 1989 (Vanderbilt University)

	DE Funds Budgeted	VU Funds Budgeted	DE Funds Spent	VU Funds Spent
Salary and Wages				
Key Personnel, 6		$12,407.00		$13,390.27
Senior Library Specialist (100%)	$14,082.00		$16,422.00	
Computer Operator (5%)		416.00		
Administrative Secretary (4%)		293.00		
Student Hours	3,363.00	2,062.00	2,335.00	
Subtotal	$17,445.00	$15,178.00	$18,757.00	$13,390.27
Fringe Benefits				
Key Personnel, 6		$ 2,741.00		$ 2,764.22
Sr Library Specialist (100%) [rev 7/90]	$ 3,351.00		$ 3,407.00	
Computer Operator 95%)		80.00		
Administrative Secretary (4%)		67.00		
Subtotal	$ 3,351.00	$ 2,888.00	$ 3,407.00	$ 2,764.22
Travel	$ 0.00	$ 168.00	$ 0.00	$ 164.00
Equipment				
Microcomputers & Printers [rev 7/90]	$ 4,000.00			$ 510.00
Modems [rev 11/89]	1,000.00			
Telefacsimile machines [rev 11/89]	11,222.00		16,221.00	
Photocopiers [rev 11/89]				
Subtotal	$16,222.00	$ 0.00	$16,221.00	$ 510.00
Supplies				
Wrapping materials		$ 385.00		$ 359.00
Paper/Toner for FAX & Copier		517.00		1,071.00
Postage		600.00		1,148.00
Subtotal	$ 0.00	$ 1,502.00	$ 0.00	$ 2,578.00
Contractual Services				
See Vanderbilt budget				
Other				
Telecommunications				
FAX rental		$ 3,300.00		
Leased lines for catalog access [rev 11/89]				
Telephone lines for FAX & Lib Spec.	$ 552.00		$ 250.00	
Long distance charges [rev 11/89]	1,800.00	1,575.00	273.97	$ 4,519.76
Promotional Services				
Flyer design		200.00		
Flyer production		250.00		87.00
Subtotal	$ 2,352.00	$ 5,325.00	$ 523.97	$ 4,606.76
Indirect Costs (Direct cost less equipment plus $25,000 on subcontract) x 31.1%	$ 8,796.00		$ 8,621.42	
TOTAL PROJECT COST	$ 48,166.00	$25,061.00	$ 47,530.39	$24,013.25

APPENDIX A: IRIS Brochure

IRIS

An interlibrary link between
The University of Tennessee, Knoxville
and Vanderbilt University



University Libraries
The University of Tennessee, Knoxville

Now, the books and journals in the Vanderbilt University library are available for your use—thanks to IRIS, the new interlibrary link between UTK and Vanderbilt.*

With the explosive growth of scientific literature, rising costs of scientific journals, and constrained library budgets, it is increasingly difficult for university libraries to provide the information that is vital to the university's research mission. Resource sharing is one solution to the information deficit faced by libraries and researchers. IRIS is an important first step toward resource sharing among Tennessee's libraries.

IRIS makes the Vanderbilt library's online catalog available for searching at the UTK Libraries. UTK's Interlibrary Loan office will telefax your loan request to the Vanderbilt library for the fastest possible turnaround. Vanderbilt will fax journal articles to you within one day.

IRIS also delivers! The UTK Libraries will deliver interlibrary loan materials for faculty and graduate students to their departmental offices—and pick up materials at the end of the loan period.

*Sponsored in part by a U.S. Department of Education grant under Title IID of the Higher Education Act

IRIS materials are yours in three easy steps

If you have determined that the material you are looking for is not available at the University of Tennessee, Knoxville Libraries, then:

1 Check the Vanderbilt library's online catalog ("ACORN"). ACORN terminals are located in Reference and Information Services (135 Hodges Library) and the Agriculture-Veterinary Medicine Library (A113 Veterinary Teaching Hospital).

2 Fill out an Interlibrary Loan Request form and return it to ILL (130 Hodges Library). Forms are available at each of the ACORN terminals.

3 For faculty and graduate students, IRIS materials will be delivered to departmental offices on campus.

IRIS Policies

1 All faculty, staff, and students with validated UTK ID cards are eligible to use IRIS.

2 Normally, photocopies will be transmitted via fax. Book loans will be shipped via first class mail or UPS.

3 Unless otherwise specified by the requestor, all materials loaned to faculty and graduate students will be delivered to and picked up from on-campus departmental offices.

4 If the Interlibrary Loan office is closed, requests may be submitted at the reference desks in Hodges or Agriculture-Veterinary Medicine libraries.

UTK is an equal opportunity/affirmative action/Title IX/Section 504 employer.

UTK Library, January 1989
EO1-6010-006-89

APPENDIX B: IRIS Cover Sheet

This material is provided to you through IRIS, a one year project sponsored in part by the U.S. Department of Education under Title IID of the Higher Education Act. An important step toward resource sharing among Tennessee's libraries, the grant makes Vanderbilt library's online catalog available for searching at the UTK Libraries. New telefacsimile equipment provided by IRIS allows Vanderbilt and UTK Libraries to fax journal articles to each other. In addition, borrowed books are shipped first class or by commercial carrier for the fastest possible turnaround.

Would you take a moment to answer the following questions, so that we can evaluate this new service:

1. Overall, how satisfied were you with the IRIS service?

2. How important is the service to your work? (Check one.)

   ___ Very important
   ___ Moderately important
   ___ Marginally important

3. Is the material you requested primarily to support

   ___ instruction?
   ___ research? (Check one.)
   ___ other?

4. How long did it take to get the item you requested, from the time you requested it? (Check one.)

   ___ Within one day
   ___ 1-2 week days
   ___ More than 2 week days

5. Did you receive the item itself or a copy of the item?

6. What comments do you have about the service?

Please return the completed form to: Interlibrary Loan
130 Hodges Library
Campus

Thank you!

APPENDIX C:
IRIS SURVEY RESULTS

Composite Raw Data,
University of Tennessee, Knoxville and Vanderbilt University
January, 1991

	UTK	VU	
Number mailed:	254	370	N = 296
Number returned:	135	161	
Response rate:	53%	44%	Resp. rate = 47%

IRIS

A JOINT USE PROJECT
BETWEEN
THE UNIVERSITY OF TENNESSEE, KNOXVILLE AND VANDERBILT
UNIVERSITY LIBRARIES

A Survey of User Opinion

During the past year you received materials from the (UT/VU) Libraries through IRIS, a project sponsored in part by the U.S. Department of Education under Title IID of the Higher Education Act. Your opinion of the success of the project is important to us. Would you take a few minutes to answer the following questions based on your use of IRIS during the year to date?

1. Did you realize that you had received materials through IRIS?

	UT	VU	Total	%
1. Yes	87	95	182	66%
2. No	48	47	95	34%

2. Overall, how would you characterize the IRIS service at (UT/VU) Library?

	UT	VU	Total	%
1. Excellent	46	51	97	53%
2. Good	37	40	77	42%
3. Fair	3	4	7	4%
4. Poor	3	0	3	1%

3. How did you find out about IRIS? (circle all that apply)

1. Identification on the document you received
2. Brochure, poster or other promotional material
3. News article
4. From someone in my department
5. From someone who works in the library
6. Other

		UT	VU	Total	%
1.	(Doc ID)	21	14	35	20%
2.	(promo)	17	2	19	11%
3.	(news)	5	0	5	3%
4.	(dept.)	12	3	15	9%
5.	(library)	15	77	92	53%
6.	(other)	5	1	6	4%

4. If you used the UT/VU online catalog, how successful were you at finding what you wanted?

		UT	VU	Total	%
1.	Very successful	24	15	39	28%
2.	Good	9	3	12	8%
3.	Unsuccessful	2	3	5	4%
4.	Did not use	8	76	84	60%

5. Was someone available to help you with the UT/VU online catalog?

		UT	VU	Total	%
1.	Yes	31	31	62	34%
2.	No	5	2	7	4%
3.	Don't know	12	11	23	13%
4.	Did not use	38	51	89	49%

6. If you received a fax copy how would you rate the graphic quality?

		UT	VU	Total	%
1.	Good	17	24	41	16%
2.	Acceptable	33	51	84	33%
3.	Poor	19	15	34	13%
4.	Did not receive fax copies	59	38	97	38%

7. Aside from IRIS, have you ever used Interlibrary Loan?

		UT	VU	Total	%
1.	Yes	105	107	212	79%
2.	No	23	33	56	21%

8. If you answered Yes to question #7, how would you compare the speed of IRIS to other Interlibrary Loan services?

		UT	VU	Total	%
1.	Faster	49	75	124	54%
2.	About the same	20	11	31	14%
3.	Slower	0	3	3	1%
4.	Don't know	40	30	70	31%

9. Are you

1. Faculty
2. Graduate or Professional (MBA, JD, MLS) Student
3. Undergraduate Student
4. Staff or Administrator
5. Other: International student, post doc, adjunct faculty, research fellow

		UT	VU	Total	%
1.	(Faculty)	61	73	134	49%
2.	(Grad/Prof)	54	51	105	39%
3.	(Undergrad)	7	3	10	4%
4.	(Staff/Admin)	8	9	17	6%
5.	(Other)	3	2	5	2%

10. What is your department or major?

UT:	Library Staff	3	VU:	Medical	33
	Sci/Engr	59		Nursing	2
	Soc Sci	41		Psych	1
	Humanities	19		Legal	1
	GSLIS	5		Sciences	37
	Admin	1		Engr	34
				Arts/Sci	8
				Educ	2
				Admin	1

Composite:	Sci/Engr/Med	165	67%
	Human/Soc Sci	79	32%
	Admin	2	1%